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PSD/NPIC-176-65  
20 September 1965

MEMORANDUM FOR: Assistant for Plans and Development

SUBJECT: [REDACTED] Electrocolor Printer-Processor

REFERENCE: NPIC/P&DS-308-65

### DECLASS REVIEW by NIMA/DOD

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1. The purpose of the evaluation was to compare the [REDACTED] Electrocolor System to present conventional color systems for limited print production on a daily basis.

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2. The installation of the machine was fully completed on 29 April 1965. The discrepancy between the dates as stated in the referenced memorandum was due to the necessity to add more deionization tanks to the water system.

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3. [REDACTED] arrived on 12 April 1965 and [REDACTED] was assigned to assist him in the assembly of the machine. After the machine was assembled, [REDACTED] instructed [REDACTED] in its operation. The assembly consumed approximately two days and the instruction approximately one and one-half days. [REDACTED] left the afternoon of 15 April.

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4. [REDACTED] and two other Lab technicians, whom he instructed, began on 16 April to produce prints. They had gathered together a package of various types of negatives which had previously been used in the Lab; these included portrait, landscape, aerial and copy negatives. Also included in the package were some color test targets. During the first two weeks the productivity of the machine was limited because of the lack of hot deionized water. This condition was corrected by the installation of the three additional deionization tanks on the 29th of April.

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5. During the month of May, [REDACTED] spent full time testing the machine. He was assisted on a part time basis by [REDACTED]. The results obtained from their efforts were frustrating and unsatisfactory. During this period [REDACTED] was in almost constant contact with the situation. He, as a result of his observations, decided to call in technical help from [REDACTED].

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6. On 7 June, [REDACTED] reported and spent the next three and one-half days making various adjustments and re-checking procedures with our people. During [REDACTED] stay, he had several conversations with [REDACTED].

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Excluded from automatic  
downgrading and  
declassification

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in which he emphasized that this was an experimental machine and that we were expecting too much of it; that he was surprised that it was installed in a production laboratory.

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7. After [REDACTED] departure on the 18th of June, we continued to try to use the machine. We finally shut it down on 9 July and have not attempted to run it since that date.

8. Conclusions

A. The repeatability from print to print made from the same negative at identical exposure settings and magnifications was inconsistent.

B. The resolution produced is less than that presently produced by existing color systems.

C. The limitations of negative and print sizes fail to meet our requirements.

D. The physical design of the machine does not allow the use of local print control such as "dodging" and "burning-in", necessary functions when producing good quality prints.

E. The color rendition is not yet comparable to that of Ektacolor Professional Print Paper. The overall color quality seems to be effected by the minimum density areas; this is to say that the whites are muddy and lack brilliance.

F. Humidity and room temperatures greatly effect the sensitivity of the print during exposure.

G. The present design is not practical for production use.

9. Recommendations

A. That the separation of the printing and processing functions into two separate mechanisms be suggested to [REDACTED]

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25X1A B. That [REDACTED] consider a better optical system in future design.

25X1A C. That the present contract be terminated and the machine be returned to [REDACTED]

D. That future prototype equipment be tested by some facility other than the PSD Photo Lab whose mission is one of production.

25X1A [REDACTED]  
Chief, Production Services Division,  
NPIC